Claims

1. (currently amended): A device to actively manage pressure/vacuum and eliminate non-condensable gases in a closed loop, unpressurized when cold, fluid filled, self-pressurizing, solar system, which is comprised of: a one-way out pressure relief valve and a one-way in vacuum relief valve plumbed in parallel from the highest point in the solar system to the bottom of an unpressurized, partially filled overflow/recovery reservoir.

2. (currently amended): A solar collector over-temperature protection device which consists of boiling-activated, presssurized liquid-to-air radiator between the solar collector and the device to actively manage pressure/vacuum and eliminate non-condensable gases in a closed loop, unpressurized when cold, fluid filled, self-pressurizing, solar system, which is comprised of: a one-way out pressure relief valve and a one-way in vacuum relief valve plumbed in parallel from the highest point in the solar system to the bottom of an unpressurized, partially filled overflow/recovery reservoir.

3. (currently amended): A solar collector over-temperature protection device which utilizes a steam pressure-actuated piston to open air dampers that allow outside air to flow over and cool the solar collector's absorber plate, where the piston is connected between the solar collector and the device to actively manage pressure/vacuum and eliminate non-condensable gases in a closed loop, unpressurized when cold, fluid filled, self-pressurizing, solar system, which is comprised of: a one-way out pressure relief valve and a one-way in vacuum relief valve plumbed in parallel from the highest point in the solar system to the bottom of an unpressurized, partially filled overflow/recovery reservoir,

4. (cancelled):

5. (cancelled):

6. (cancelled):

7. (cancelled):

8. (cancelled):

9. (cancelled)

10. (cancelled)

11. (cancelled)

12. (cancelled)

13. (currently amended) A solar collector over-temperature protection device which includes both a boiling-activated, liquid-to-air radiator and pressure-actuated air dampers which are both connected between the solar collector and the device to actively manage pressure/vacuum and eliminate non-condensable gases in a closed loop, unpressurized when cold, fluid filled, self-pressurizing, solar system, which is comprised of: a one-way out pressure relief valve and a one-way in vacuum relief valve plumbed in parallel from the highest point in the solar system to the bottom of an unpressurized, partially filled overflow/recovery reservoir